FIG. 1

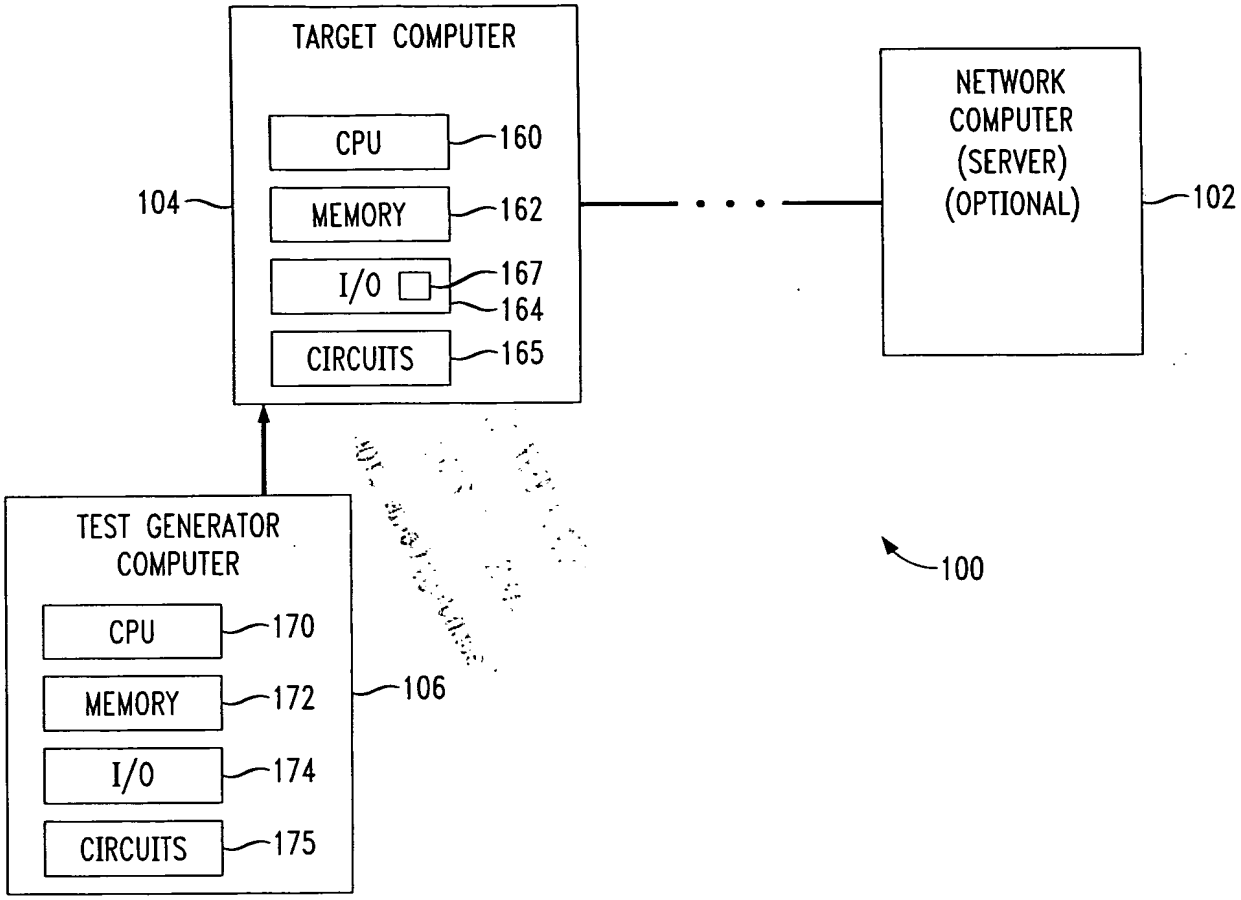
TARGET COMPUTER
CPU
160
MEMORY
162
I/O
167
164
CIRCUITS
165
104
NETWORK COMPUTER (SERVER) (OPTIONAL)
102
TEST GENERATOR COMPUTER
CPU
170
MEMORY
172
I/O
174
CIRCUITS
175
106
100

FIG. 2

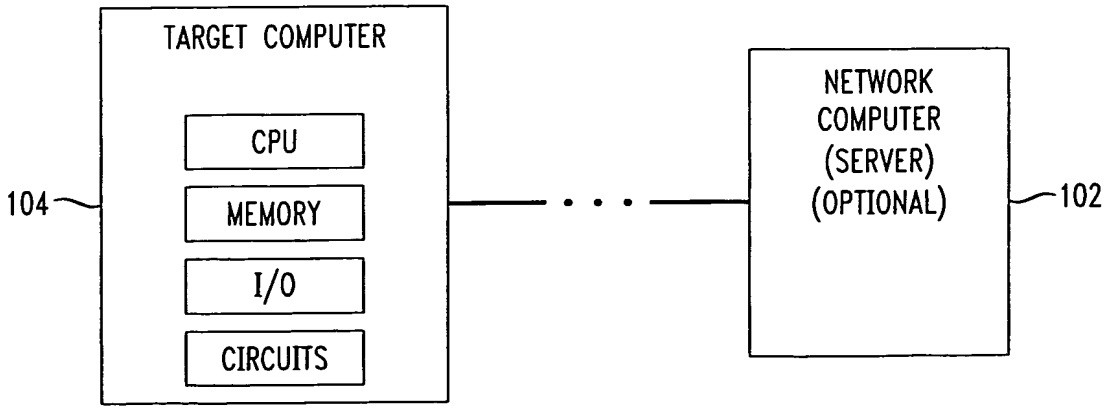
TARGET COMPUTER
CPU
MEMORY
I/O
CIRCUITS
104
NETWORK COMPUTER (SERVER) (OPTIONAL)
102

FIG. 3

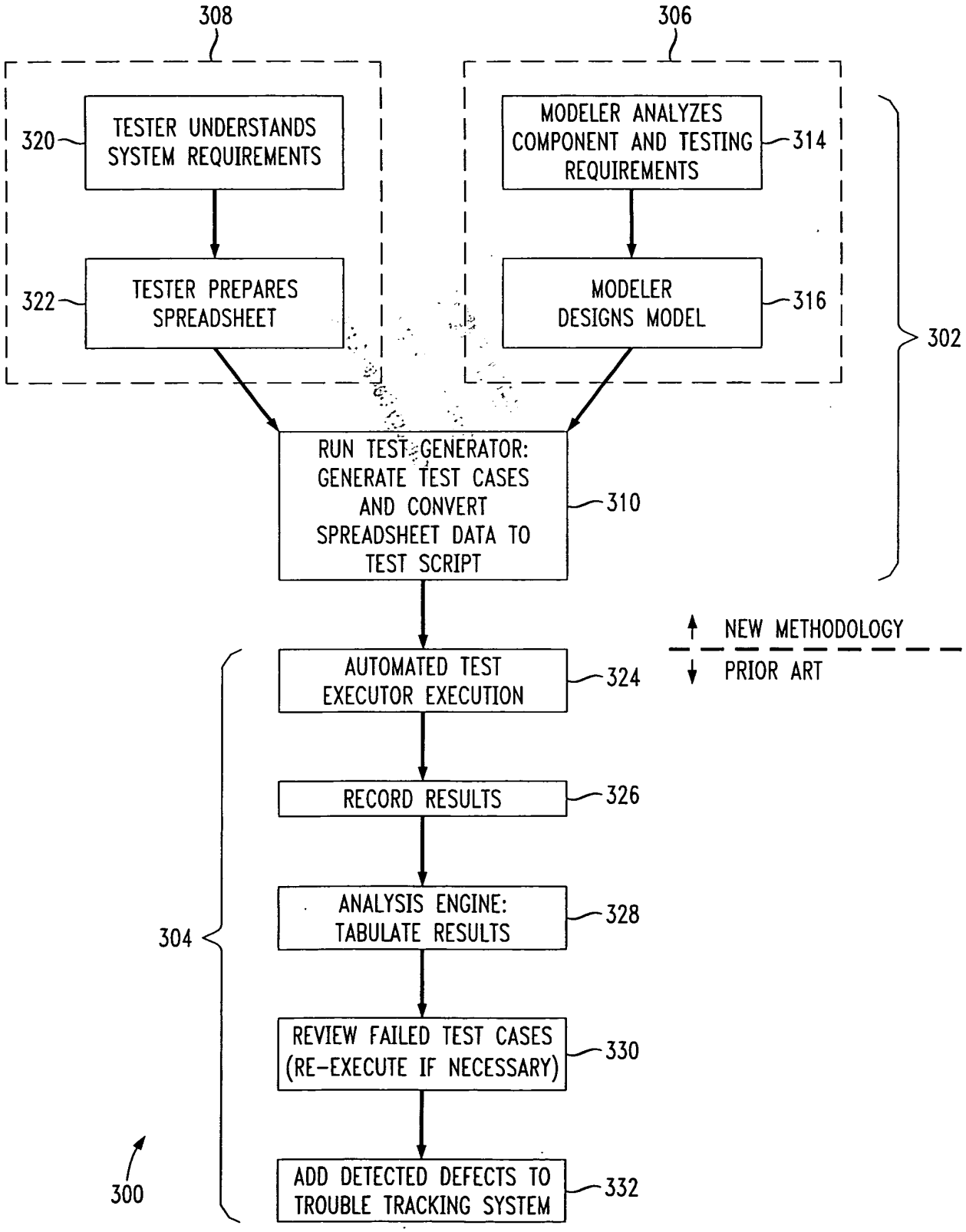
308
306
320
TESTER UNDERSTANDS SYSTEM REQUIREMENTS
MODELER ANALYZES COMPONENT AND TESTING REQUIREMENTS
314
322
TESTER PREPARES SPREADSHEET
MODELER DESIGNS MODEL
316
302
RUN TEST GENERATOR: GENERATE TEST CASES AND CONVERT SPREADSHEET DATA TO TEST SCRIPT
310
NEW METHODOLOGY
PRIOR ART
AUTOMATED TEST EXECUTOR EXECUTION
324
RECORD RESULTS
326
ANALYSIS ENGINE: TABULATE RESULTS
328
304
REVIEW FAILED TEST CASES (RE-EXECUTE IF NECESSARY)
330
ADD DETECTED DEFECTS TO TROUBLE TRACKING SYSTEM
332
300

FIG. 4

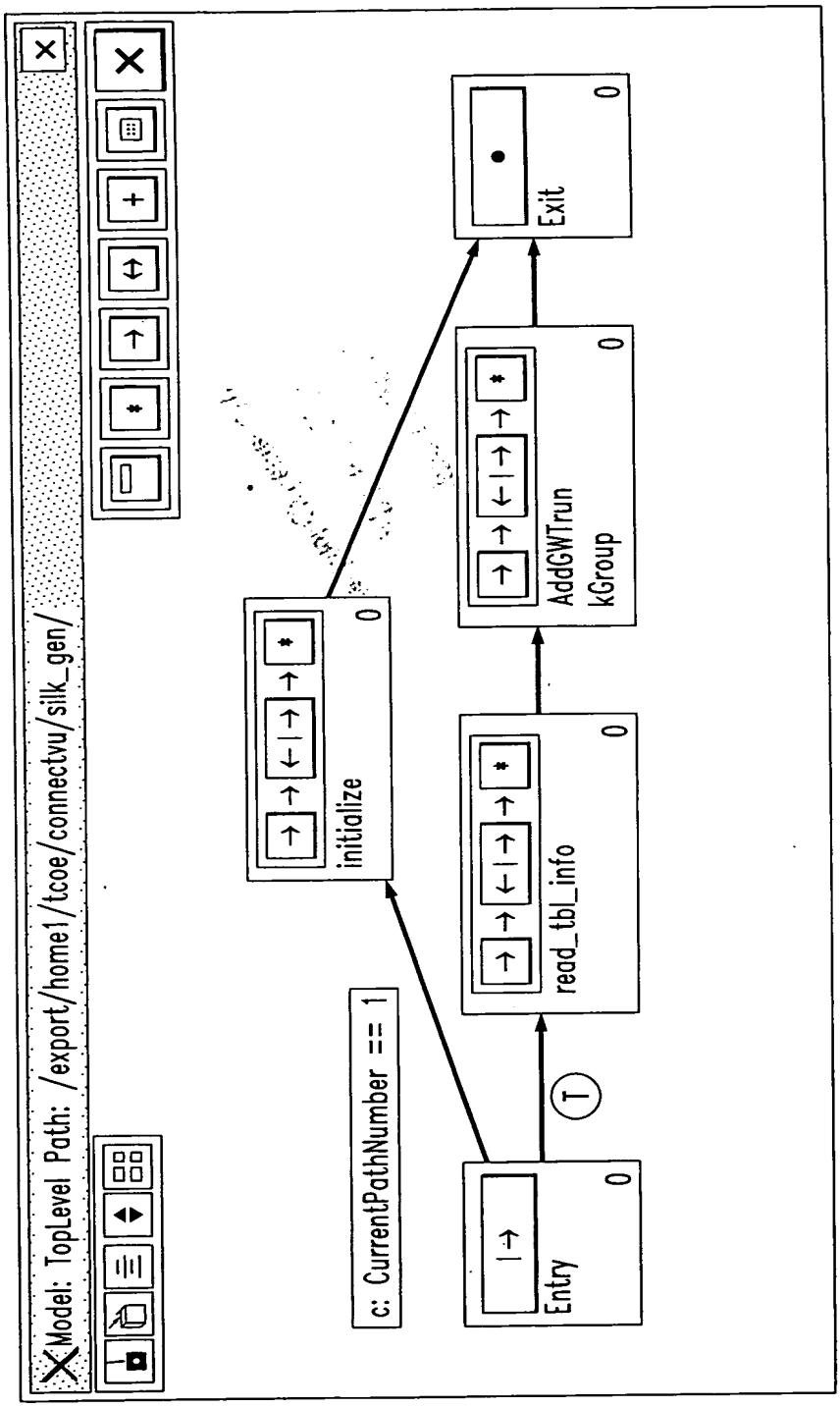
Model: TopLevel Path: /export/home1/tcoe/connectvu/silk_gen/
Entry
0
T
c: CurrentPathNumber == 1
initialize
0
read_tbl_info
0
AddGWTrun
kGroup
0
Exit
0

FIG. 5A

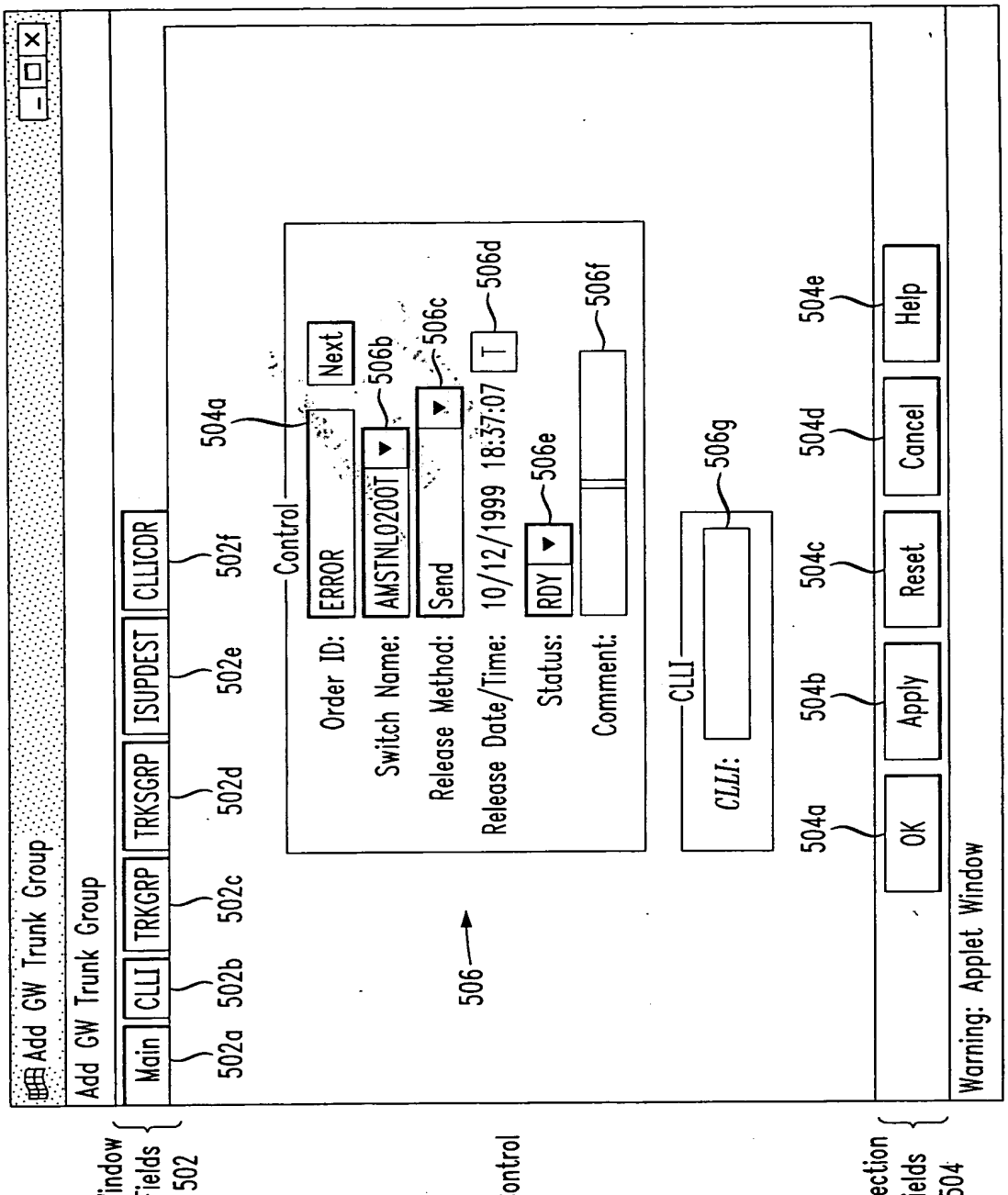
Add GW Trunk Group
Add GW Trunk Group
Main
CLLI
TRKGRP
TRKSGRP
ISUPDEST
CLLICDR
502a
502b
502c
502d
502e
502f
504a
Control
Order ID:
ERROR
Next
Switch Name:
AMSTNL0200T
506b
Release Method:
Send
506c
Release Date/Time:
10/12/1999 18:37:07
T
506d
Status:
RDY
506e
Comment:
506f
506
CLLI:
506g
OK
Apply
Reset
Cancel
Help
504a
504b
504c
504d
504e
Warning: Applet Window
Window Fields 502
Control
Selection Fields 504
500

FIG. 5B

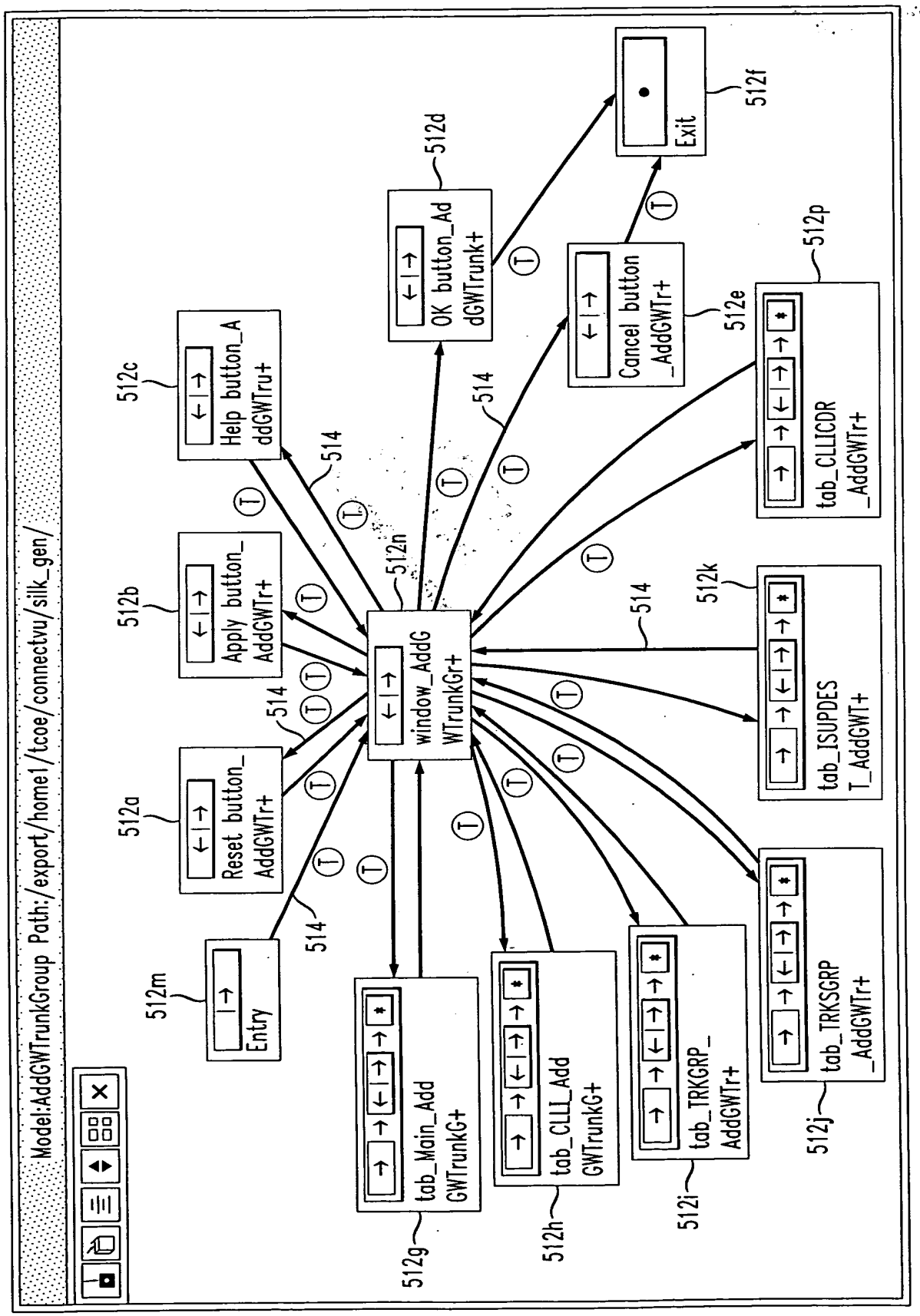
Model:AddGWTrunkGroup Path:/export/home1/tcoe/connectvu/silk_gen/
Entry
512m
Reset button_ AddGWTr+
512a
Apply button_ AddGWTr+
512b
Help button_A ddGWTru+
512c
window_AddG WTrunkGr+
512n
OK button_Ad dGWTrunk+
512d
Cancel button _AddGWTr+
512e
Exit
512f
tab_Main_Add GWTrunkG+
512g
tab_CLLI_Add GWTrunkG+
512h
tab_TRKGRP_ AddGWTr+
512i
tab_TRKSGRP _AddGWTr+
512j
tab_ISUPDES T_AddGWT+
512k
tab_CLLICDR _AddGWTr+
512p
514
T

FIG. 6

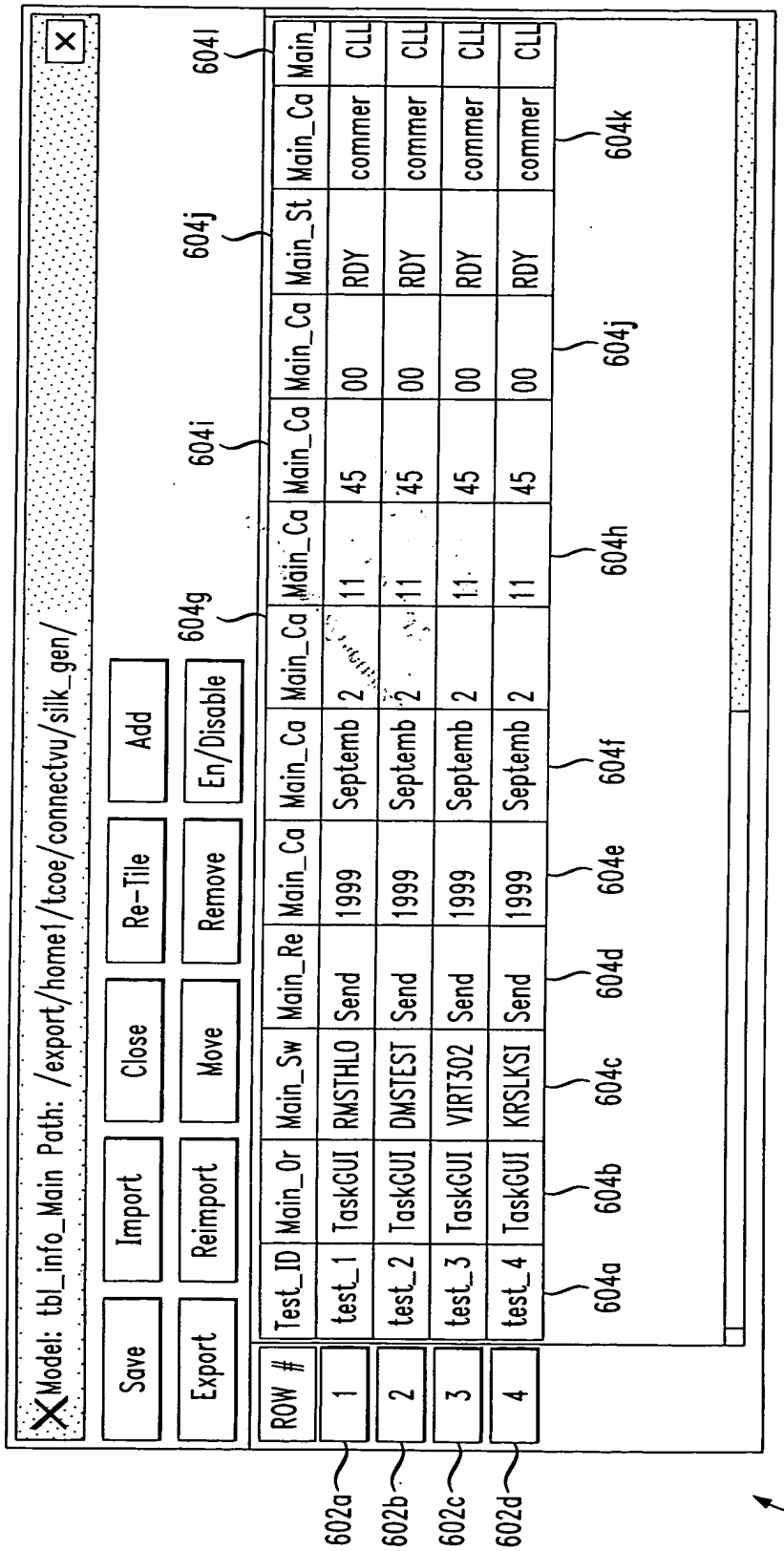
Model: tbl_info_Main Path: /export/home1/tcoe/connectvu/silk_gen/
Save
Import
Close
Re-Tile
Add
Export
Reimport
Move
Remove
En/Disable
ROW #
Test_ID
Main_Or
Main_Sw
Main_Re
Main_Ca
Main_Ca
Main_Ca
Main_Ca
Main_St
Main_Ca
Main_
1
test_1
TaskGUI
RMSTHLO
Send
1999
Septemb
2
11
45
00
RDY
commer
CLL
2
test_2
TaskGUI
DMSTEST
Send
1999
Septemb
2
11
45
00
RDY
commer
CLL
3
test_3
TaskGUI
VIRT302
Send
1999
Septemb
2
11
45
00
RDY
commer
CLL
4
test_4
TaskGUI
KRSLKSI
Send
1999
Septemb
2
11
45
00
RDY
commer
CLL
602a
602b
602c
602d
604a
604b
604c
604d
604e
604f
604g
604h
604i
604j
604k
604l
600

FIG. 7

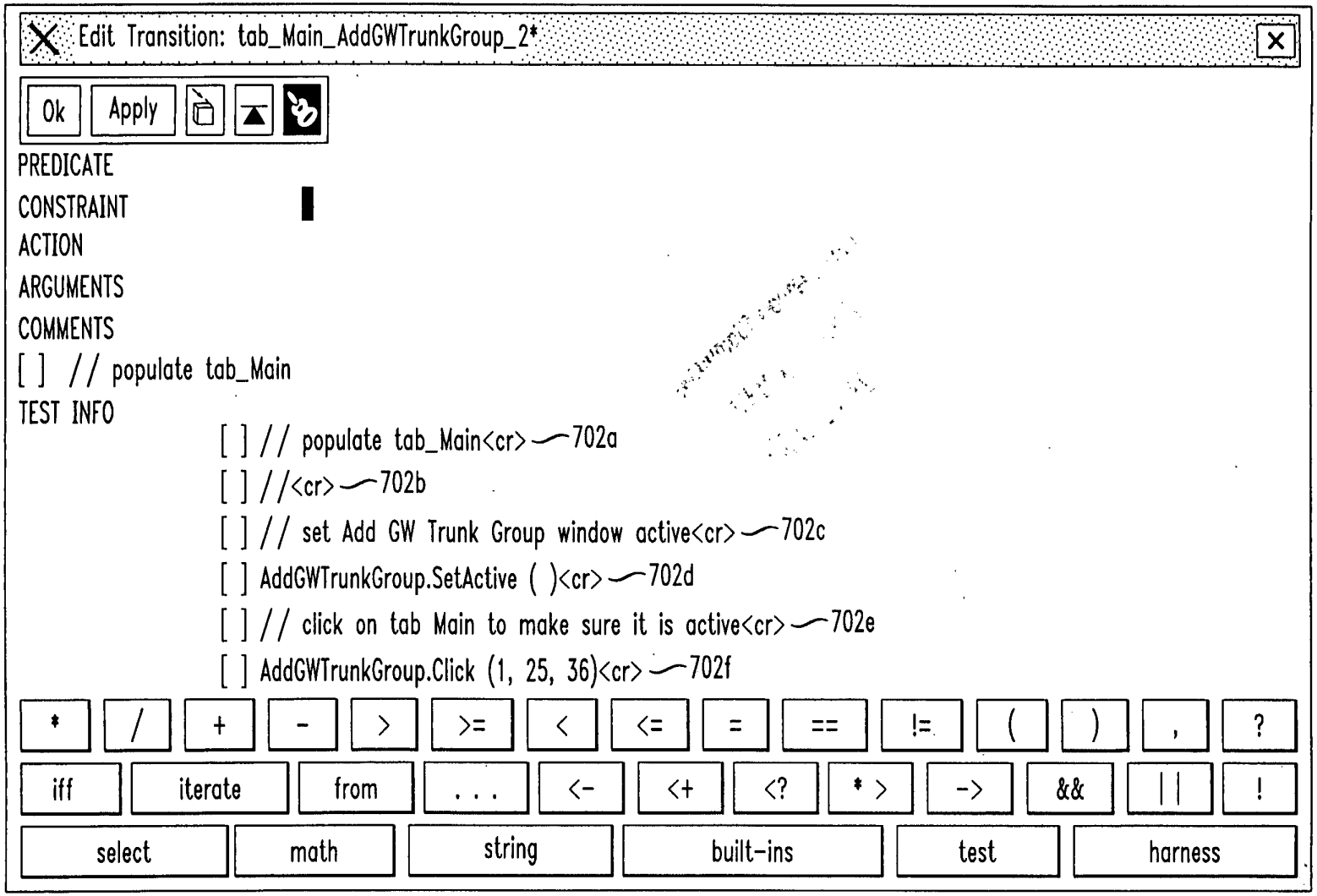
Edit Transition: tab_Main_AddGWTrunkGroup_2*
Ok
Apply
PREDICATE
CONSTRAINT
ACTION
ARGUMENTS
COMMENTS
[ ] // populate tab_Main
TEST INFO
[ ] // populate tab_Main<cr>
702a
[ ] //<cr>
702b
[ ] // set Add GW Trunk Group window active<cr>
702c
[ ] AddGWTrunkGroup.SetActive ( )<cr>
702d
[ ] // click on tab Main to make sure it is active<cr>
702e
[ ] AddGWTrunkGroup.Click (1, 25, 36)<cr>
702f
* / + - > >= < <= = == != ( ) , ?
iff iterate from . . . <- <+ <? * > -> && || !
select math string built-ins test harness
700

FIG. 8

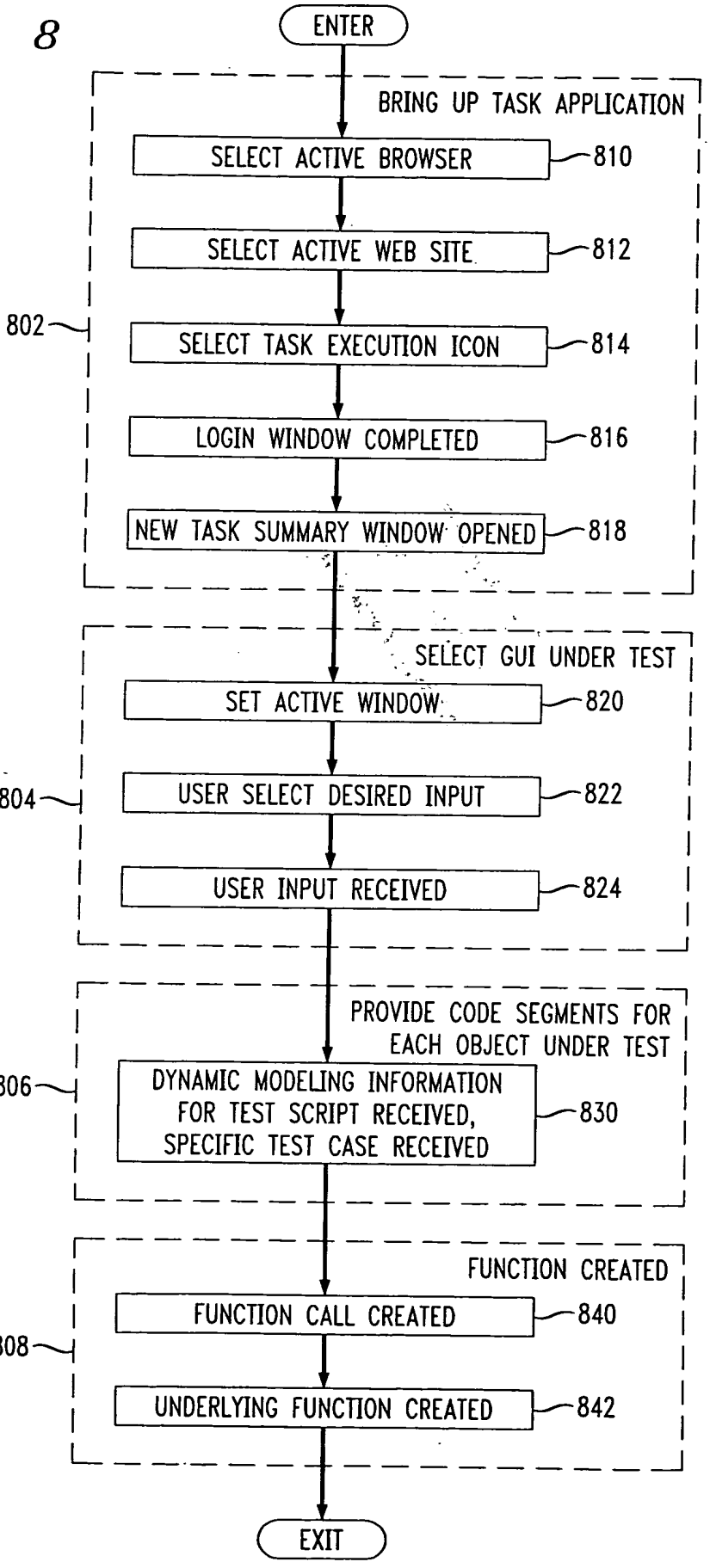
ENTER
BRING UP TASK APPLICATION
SELECT ACTIVE BROWSER
810
SELECT ACTIVE WEB SITE
812
802
SELECT TASK EXECUTION ICON
814
LOGIN WINDOW COMPLETED
816
NEW TASK SUMMARY WINDOW OPENED
818
800
SELECT GUI UNDER TEST
SET ACTIVE WINDOW
820
804
USER SELECT DESIRED INPUT
822
USER INPUT RECEIVED
824
PROVIDE CODE SEGMENTS FOR EACH OBJECT UNDER TEST
806
DYNAMIC MODELING INFORMATION FOR TEST SCRIPT RECEIVED, SPECIFIC TEST CASE RECEIVED
830
FUNCTION CREATED
FUNCTION CALL CREATED
840
808
UNDERLYING FUNCTION CREATED
842
EXIT

FIG. 9

test.case.ID	GUI_object_name 1	GUI_object_name 2
ID-1	action-value	action-value
ID-2	action-value	action-value
⋮	⋮	⋮

FIG. 10A

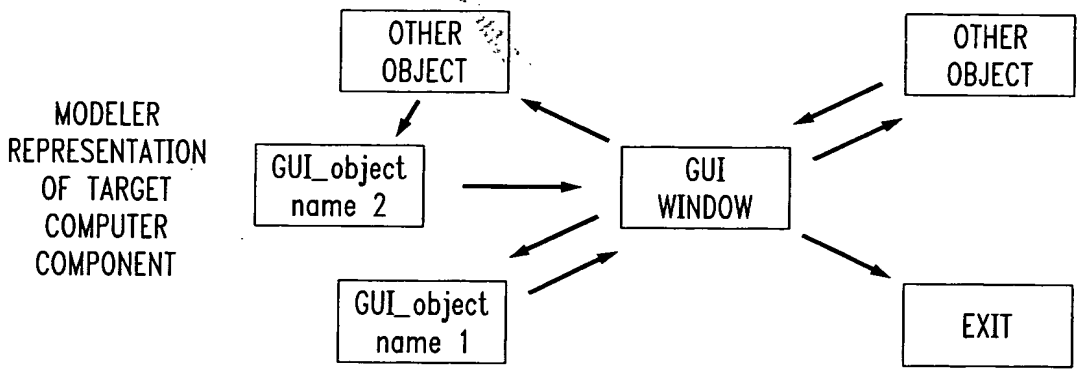

FIG. 10B

SAMPLE OF CODE PREPARED BY MODELER

⋮

LOG OPERATION START
OBJECT_TYPE=TEST.OBJECT
POSITION MOUSE POINTER TO OBJECT_TYPE
CLICK MOUSE TO HIGHLIGHT
PASTE VALUE INTO OBJECT_TYPE
LOG OPERATION OUTCOME

⋮

FIG. 11

SAMPLE OF CONVERTER LOGIC

```
LOOP x
LOOP y
ASSIGN VAR TEST ← test_case_ID[x]
ASSIGN VAR OBJECT ← .GUI_object_name[y]
ASSIGN VAR VALUE ← test_case_ID[x].GUI_object_name[y]
APPLY VALUE to TEST.OBJECT >>TEST_SCRIPT
RECORD action and expected result
NEXT y
NEXT x
```